



US 20130183379A1

(19) **United States**(12) **Patent Application Publication**
Devore et al.(10) **Pub. No.: US 2013/0183379 A1**(43) **Pub. Date: Jul. 18, 2013**(54) **GRAFT COPOLYMER POLYELECTROLYTE
COMPLEXES FOR DRUG DELIVERY****Publication Classification**(71) Applicant: **RUTGERS, THE STATE
UNIVERSITY OF NEW JERSEY,**
New Brunswick, NJ (US)(51) **Int. Cl.**
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CPC **A61K 9/1272** (2013.01)
USPC **424/450; 514/44 A; 514/2.3**(73) Assignee: **RUTGERS, THE STATE
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New Brunswick, NJ (US)(57) **ABSTRACT**(21) Appl. No.: **13/828,105**(22) Filed: **Mar. 14, 2013****Related U.S. Application Data**(63) Continuation-in-part of application No. 12/744,824,
filed on Oct. 5, 2010, filed as application No. PCT/
US08/84995 on Nov. 26, 2008.(60) Provisional application No. 61/619,234, filed on Apr.
2, 2012, provisional application No. 60/990,606, filed
on Nov. 27, 2007.

Graft copolymer polyelectrolyte complexes are disclosed for the efficient delivery of anionic, cationic or polyelectrolyte therapeutic agents into biological cells, and for maintaining the biological activity of these molecules while in serum and other aqueous environments are provided. Such complexes comprise (1) an anionic graft copolymer containing an anionic polymer backbone, with pendent carboxylic acid groups and pendant chains containing amphipathic or hydrophilic polymers covalently bonded to a portion of the pendant carboxylic acid groups, (2) one or more anionic, cationic or polyelectrolyte therapeutic agents, and (3) optionally a liposome optionally containing an additional therapeutic agent. Also disclosed are functional nanoparticles containing the complexes.

DOTAP (+)/Antisense(-)/Polymer(-)